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SENT 34 AMDT

NOV 2004/018075

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10/521740

DT15.02d PCT/PTC 19 JAN 2005

PCT/EP2003/007162

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Hydromechanical Driving Device

The invention relates to a hydromechanical driving device for generation of feed movements of strip-like filter material as a function of the pressure prevailing in fluid to be filtered in order to operate strip-filter mechanisms.

Strip-filter mechanisms in which a strip-like filter material is used as separating medium are known; see DE 43 11 297 A1 or DE 93 01 154 U1. In the operation of such mechanisms the filter material is advanced as a function of the extent of fouling of the respective strip area through which the filter material flows so as to make fresh filter material available for the filtration process as required. Since the differential pressure between the fouled side and the clean side of the strip-filter mechanism grows with increase in the extent of fouling of the filter material, the value of this differential pressure or the level of the pressure prevailing in the space containing the fluid to be filtered may serve as a criterion for initiation of a filter material feed movement.

The advance of the strip-like filter material may be effected by conventional means by winding the filter material. As is shown, for example, in German Patent Application 101 26 443.7, not of the state of the art, a fouled strip from a roll containing the supply of filter material is subsequently rolled onto a roll connected to the drive shaft of the drive device. In such strip-filter mechanisms the fluid to be filtered flows from the exterior inward through the unused filter

Claims

1. A hydromechanical driving device for generation of feed movements of strip-like filter material as a function of the pressure prevailing in fluid to be filtered in order to operate strip-filter mechanisms, having
 - a hydraulic accumulator (29) with a movable separating element (31) separating a first (33) and a second (35) accumulator space, to which separating element (31) there may be applied on its side adjoining the first accumulator space (33) the pressure of the fluid to be filtered prevailing in such accumulator space (33)
 - a mechanism (15, 17) converting the movement of the separating element (31) to a feed movement, and
 - a pressure control mechanism (47, 49, 51) for generation in the second accumulator space (35), as a function of the level of the pressure and/or extent of fouling of the fluid to be filtered, of a pressure lower than such pressure which effects movement of the separating element (31).
2. The drive device as claimed in claim 1, wherein the pressure control mechanism has two fluid connections (47 and 49) provided at the second accumulator space (35) of the hydraulic accumulator (29) by way of the first connection (47) of which pressure may be generated in this accumulator space (35) which is lower than the pressure in the first accumulator space (33) and by way of the second connection (49) of which there may be generated in the second accumulator space (35) the pressure also prevailing in the first accumulator space (33), and wherein the pressure control mechanism has a control valve (51) which may be actuated by the movement of the separating element (31), in order to free the first connection